

UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF SOUTH DAKOTA  
CENTRAL DIVISION

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**FILED**  
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ALFRED BONE SHIRT, et al.,       )  
  )  
Plaintiffs,                        )  
  )  
v.                                        ) Civ. No. 01-3032-KES  
  )  
CHRIS NELSON, et al.,            )  
  )  
Defendants.                         )  
  )

PLAINTIFFS' BRIEF IN OPPOSITION TO DEFENDANTS' MOTION TO STRIKE

I. Introduction

Defendants' motion to strike is without merit and should be denied.

II. Defendants' Challenge to Dr. Cole's Testimony and Report Is Frivolous

Defendants' claim is frivolous that the testimony and report of Dr. Steven P. Cole should be struck because the methodology he used-- ecological regression (ER) and homogeneous precinct analysis (HPA)--are invalid.<sup>1</sup>

A. The Supreme Court Has Approved the Use of ER and HPA

Defendants are less than forthright in saying that ER and HPA were "first referred to in Gingles itself." Defendants' Brief, p. 2 (emphasis added). They neglected to advise this Court that both methods were expressly approved and relied upon by the Supreme Court which described them as "standard in the literature for the analysis of racially polarized voting." Thornburg v. Gingles, 478

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1. ER is also referred to as bivariate ecological regression analysis (BERA), or the Goodman technique, named after Leo Goodman who pioneered its use. See Leo Goodman, "Ecological Regression and the Behavior of Individuals," 18 Am. Soc. Rev. 663 (1953). HPA is also sometimes referred to as "extreme case analysis."

U.S. 30, 53 (1986). The Supreme Court would never have made these findings if the methods were not "reliable" within the meaning of Rules 702 and 703 of the Federal Rules of Evidence. Indeed, it found that they were, i.e., that they were "standard in the literature."

B. Judicial Reliance Upon ER and HPA Has Been Universal

Given the decision of the Supreme Court in Gingles, it is not surprising that the reliance upon, and application of, ER and HPA by the federal courts, including those in the Eighth Circuit, has been universal. See, e.g., Harvell v. Blytheville Sch. Dist. No 5, 71 F.3d 1382, 1386 (8th Cir. 1995) (relying upon regression analysis); Whitfield v. Democratic Party, 890 F.2d 1423, 1424-25 (8th Cir. 1989) (relying upon bivariate ecological regression and homogeneous precinct analysis), aff'd per curiam on reh'g en banc, 902 F.2d 15 (8th Cir. 1990); Nash v. Blunt, 797 F. Supp. 1488, 1501 (W.D. Mo. 1992) (relying upon bivariate ecological regression and homogeneous precinct analysis), aff'd mem. sub nom. African American Voting Rights Legal Defense Fund, Inc. v. Blunt, 507 U.S. 1015 (1993); Jeffers v. Clinton, 730 F. Supp. 196, 208 (D. Ark. 1989) (three-judge district court) (approving the use of bivariate ecological regression and homogeneous precinct analysis), aff'd mem., 498 U.S. 1019 (1991).

A table of other cases applying ER/HPA is set out below.

TABLE 1

Selected Decisions Relying Upon and Using BERA/HPA

1. Old Person v. Cooney, 230 F.3d 1113, 1123 (9th Cir. 2000) (relying upon "a standard statistical

technique known as bivariate ecological regression analysis).

2. Rural West Tennessee African-American Affairs Council v. Sundquist, 209 F.3d 835, 839 (6th Cir. 2000) (relying upon bivariate ecological regression and homogeneous precinct analysis).

3. Askew v. City of Rome, 127 F.3d 1355, 1365 n.2 (11th Cir. 1997).

4. Harvell v. Blytheville Sch. Dist. No 5, 71 F.3d 1382, 1386 (8th Cir. 1995) (relying upon regression analysis).

5. Ruiz v. City of Santa Maria, 160 F.3d 543, 546 n.3 (9th Cir. 1998) (per curiam) (relying upon bivariate ecological regression and homogeneous precinct analysis).

6. Jenkins v. Red Clay Consol. Sch. Dist. Bd. of Educ., 4 F.3d 1103, 1119-20 (3d Cir. 1993) (relying on bivariate ecological regression and homogeneous precinct analysis).

7. Westwego Citizens for Better Government v. City of Westwego, 946 F.2d 1109, 1114 (5th Cir. 1991) (relying upon bivariate ecological regression).

8. Whitfield v. Democratic Party, 890 F.2d 1423, 1424-25 (8th Cir. 1989) (relying upon bivariate ecological regression and homogeneous precinct analysis), aff'd per curiam on reh'g en banc, 902 F.2d 15 (1990).

9. Campos v. City of Baytown, 840 F.2d 1240, 1246 (5th Cir. 1988) (approving the use of bivariate ecological regression).

10. Citizens for a Better Gretna v. City of Gretna, 834 F.2d 496, 499 (5th Cir. 1987) (affirming the trial court and its reliance on bivariate ecological regression and homogeneous precinct analysis).

11. City of Carrollton Branch of the N.A.A.C.P. v. Stallings, 829 F.2d 1547, 1558 (11th Cir. 1987) (approving the use of bivariate ecological regression in proving the existence of racial bloc voting).

12. Cuthair v. Montezuma-Cortez, Colo. Sch. Dist. No. RE-1, 7 F. Supp. 2d 1152, 1168 (D. Colo. 1998) (relying upon bivariate ecological regression and homogeneous precinct analysis).

13. Goosby v. Town Bd., 956 F. Supp. 326, 335 (E.D.N.Y. 1997) (relying upon bivariate ecological regression and homogeneous precinct analysis), aff'd, 180 F.3d 476 (2d Cir. 1999).

14. NAACP v. City of Niagara Falls, 913 F. Supp. 722, 730 (W.D.N.Y. 1994) ("[b]oth bivariate ecological regression analysis and extreme case analysis are standard methods of analyzing racially polarized voting"), aff'd, 65 F.3d 1002 (2d Cir. 1995).

15. LULAC v. North East Indep. Sch. Dist., 903 F. Supp. 1071, 1076 (W.D. Tex. 1995) (relying upon bivariate ecological regression).

16. Cane v. Worcester County, 840 F. Supp. 1081, 1087 (D. Md. 1994) (relying upon bivariate ecological regression and homogeneous precinct analysis).

17. Smith v. Board of Supervisors, 801 F. Supp. 1513 (E.D. Va. 1992) (relying upon bivariate ecological regression and homogeneous precinct analysis), rev'd on other grounds, 984 F.2d 1393 (4th Cir. 1993).

18. Nash v. Blunt, 797 F. Supp. 1488, 1501 (W.D. Mo. 1992) (relying upon bivariate ecological regression and homogeneous precinct analysis), aff'd mem. sub nom. African American Voting Rights Legal Defense Fund, Inc. v. Blunt, 507 U.S. 1015 (1993).

19. Quilter v. Voinovich, 794 F. Supp. 695, 700 (N.D. Ohio 1992) (describing bivariate ecological regression and homogeneous precinct analysis as "standard in the literature for the analysis of racially polarized voting"), rev'd on other grounds, 507 U.S. 146 (1993).

20. Burton v. Sheheen, 793 F. Supp. 1329, 1357 (D.S.C. 1992) (relying upon bivariate ecological regression and homogeneous precinct analysis), vacated on other grounds sub nom. Statewide Reapportionment Advisory Comm. v. Theodore, 508 U.S. 968 (1993).

21. Williams v. Orange County, 783 F. Supp. 1348, 1352 (M.D. Fla.) (finding that bivariate ecological regression and homogeneous precinct analysis had been relied upon in Gingles and "used thereafter in many voting rights cases"), aff'd per curiam, 979 F.2d 1504 (11th Cir. 1992).

22. Armour v. Ohio, 775 F. Supp. 1044, 1057 (N.D. Ohio 1991) (three-judge district court) (relying upon bivariate ecological regression and homogeneous precinct

analysis).

23. Garza v. County of Los Angeles, 756 F. Supp. 1298 (C.D. Cal.) (approving the use of bivariate ecological regression and homogeneous precinct analysis), aff'd, 918 F.2d 763 (9th Cir. 1990).

24. Jeffers v. Clinton, 730 F. Supp. 196, 208 (D. Ark. 1989) (three-judge district court) (approving the use of bivariate ecological regression and homogeneous precinct analysis), aff'd mem., 498 U.S. 1019 (1991).

25. Chisom v. Roemer, 1989 WL 106485 (E.D. La. 1989) (relying upon bivariate ecological regression), remanded per curiam, 917 F.2d 187 (5th Cir. 1990), rev'd on other grounds, 498 U.S. 1060 (1991).

26. East Jefferson Coalition for Leadership and Development v. Jefferson Parish, 691 F. Supp. 991, 1001 (E.D. La. 1988) (describing bivariate ecological regression and homogeneous precinct analysis as "[t]he standard methods of statistical analysis in vote dilution claims").

27. Dillard v. Baldwin County Bd. of Educ., 686 F. Supp. 1459, 1464-65 (M.D. Ala. 1988) (relying upon bivariate ecological regression).

28. Jackson v. Edgefield County, S.C. Sch. Dist., 650 F. Supp. 1176, 1194 (D.S.C. 1986) (relying upon bivariate ecological regression and homogeneous precinct analysis).

29. Windy Boy v. Big Horn County, 647 F. Supp. 1002, 1011-12 (D. Mont. 1986) (relying upon bivariate ecological regression and homogeneous precinct analysis).

30. Georgia v. Ashcroft, 195 F.Supp.2d 25, 69 (D.D.C. 2002) (relying upon bivariate ecological regression and homogeneous precinct analysis), vac. on other grounds, 123 S. Ct. 2498 (2003).

31. Johnson v. Miller, 864 F. Supp. 1354, 1390 (S.D.Ga. 1994) (relying upon bivariate ecological regression and homogeneous precinct analysis), aff'd sub nom. Miller v. Johnson, 515 U.S. 900 (1995).

32. Johnson v. Hamrick, 296 F.3d 1065, 1080 n.4 (11th Cir. 2002) (homogeneous precinct analysis is "reliable").

33. Rollins v. Fort Bend Independent School Dist.,

89 F.3d 1205, 1218 (5th Cir. 1996) (bivariate ecological regression and homogeneous precinct analysis "have been approved").

The federal courts have not only approved the use of ER/HPA, but they have also sharply criticized trial courts for not considering them. In Sanchez v. Colorado, 97 F.3d 1303, 1313 (10th Cir. 1996), the court of appeals reversed because the district court had rejected the plaintiffs' ER and HPA analysis, noting that "the Supreme Court approved the statistical proof provided by bivariate ecological regression and homogeneous precinct analysis." See also id. at 1321 (finding that the district court's criticism of bivariate ecological regression was "without foundation"). Similarly, in Houston v. Lafayette County, 56 F.3d 606 (5th Cir. 1995), the court of appeals reversed the trial court for its refusal to consider the plaintiffs' ER analysis. Citing Gingles, 478 U.S. at 52-53, the court of appeals held that "the district court should have considered Lichtman's ecological regression probative of the issues of black political cohesion and white bloc voting." Houston, 56 F.3d at 612. And in Teague v. Attala County, 92 F.3d 283, 290 (5th Cir. 1996), the court of appeals reversed the district court in part because its opinion "disregards the established acceptance of regression analysis as a standard method for analyzing racially polarized voting."

C. Challenges to ER and HPA Have Been Uniformly Rejected

Defendants misrepresent the facts in claiming that "not a single one of the cases [applying BERA] sets forth a rigorous analysis of ecological regression." Defendants' Brief, p. 2. To

the contrary, in Garza v. County of Los Angeles, Cal., 756 F. Supp. 1298 (C.D.Cal. 1990), aff'd, 918 F.2d 763 (9th Cir. 1990), the defendants mounted a comprehensive challenge to BERA and presented testimony from three experts (Stephen Klein, Jerome Sacks, and David Freedman) in an attempt to discredit the technique. The court, however, rejected the challenge noting that:

While in theory there exists a possibility that ecological regression could overestimate the results of ecological regression, experts for defendants have failed to demonstrate that there is in fact any substantial bias resulting from [use of the technique].

756 F. Supp. at 1334. The court concluded that:

the ecological regression and extreme case analysis performed by plaintiffs' experts, as supplemented by the analysis of correlation coefficients are sufficiently reliable to make the requisite determinations about polarized voting.

Id. Similarly, in Butts v. City of New York, 614 F. Supp. 1527, 1537 n.4 (S.D.N.Y. 1985), the court approved the use of ER after noting the "lengthy" discussion at trial of "the proper interpretation of data using correlation and regression analysis." And in Gingles, the trial court approved ER and HPA analysis relying upon the testimony of three experts, Dr. Bernard Grofman, Dr. Thomas Hofeller, and Dr. Theodore Arrington. Gingles v. Edmisten, 590 F. Supp. 345, 368 n.29 (E.D.N.C. 1984).

Other courts have also routinely, rejected challenges to the sufficiency of ecological regression and HPA. See, e.g., Williams v. Orange County, Fla., 783 F. Supp. 1348, 1352-53 (M.D.Fla. 1992) (there was "no likelihood that plaintiffs could raise a genuine issue of the reliability or legal sufficiency of these [ER and

homogeneous precinct] methods"); Jeffers v. Clinton, 730 F. Supp. at 208 (rejecting a challenge to ER and homogeneous precinct analysis); Sanchez v. State of Colorado, 97 F.3d at 1321 (reversing the district court and finding that its criticism of ER was "without foundation").

Defendants' misrepresentations concerning the "rigorous analysis of ecological regression" are particularly evident, and inexcusable, in that the court in Old Person v. Brown, 182 F.Supp.2d 1002 (D.Mont. 2002), rejected a challenge to ER and HPA identical to that mounted here. Defendants could not have been unaware of that challenge since it was based exclusively upon the testimony of the very person who is their expert in this case, Dr. Jeffrey Zax. In Old Person, Dr. Zax, who used the King, or Ecological Inference (EI), method, testified at length at trial and made the same arguments he and defendants make here, e.g., that "BERA analysis, also known as double regression, has no foundation in scientific method and has no scientific validation;" the results from ER "are uninterpretable;" "BERA analysis is incapable of guaranteeing that its estimates will lie within . . . known limits;" the use of R squared analysis "does not in any way bear on the question of whether the estimates of cohesion are reliable;" "homogeneous precincts analysis is entirely redundant and consistently misinterpreted in the existing literature;" etc. Old Person v. Brown, D.C. No. CV-96-00004-PMP, Trial Transcript, November 6, 2001, pp. 76, 85, 115, 129 (testimony of Jeffrey Zax) (copy attached as Appendix A). In short, virtually every criticism



of ecological regression and homogeneous precinct analysis made by Dr. Zax and defendants in this case was made in Old Person, and was rejected out of hand by the district court. According to the district court, "the trial evidence demonstrates there was continued polarization as claimed by Plaintiffs in the 1998 and 2000 legislative contests evaluated by Drs. Cole and Zax." Old Person, 182 F.Supp.2d at 1012.

On appeal, the defendants in Old Person continued to press the arguments made by Dr. Zax in the district court: ER was a "faulty method;" it was "discredited science;" "it produces impossible results;" HPA suffered from "disabling defects;" etc. Old Person v. Brown, C.A. No. 02-35171 (9th Cir.), Brief of Appellee, pp. 30-3 (copy attached as Appendix B). The defendants argued that under Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993), the court should conclude that ER "was an unsatisfactory method." Brief of Appellees, p. 30 (Appendix B). Like the trial court, the court of appeals did not credit the defendants', or Dr. Zax's, arguments, and held that "[n]othing in the record shows that the district court's conclusion about racial polarization was clearly erroneous." Old Person v. Brown, 312 F.3d 1036, 1042 (9th Cir. 2002).

Dr. Zax's disparagement of HPA, and defendants' reliance upon it, is, if anything, even more inexplicable than his rant against ER. It is safe to say that not a single expert in the field shares his views that HPA is "fundamentally flawed" and "scientifically invalid." Defendants' Brief, p. 3. The reason for that is that

HPA simply reports actual voter behavior. In a precinct that contained 100 voters, all of whom were white, and in which a black candidate got 20 votes, the vote share for the black candidate in that precinct, based upon homogeneous precinct analysis, would be 20%. HPA doesn't assume anything or make any predictions or estimates or inferences. Again, it simply reports actual voter behavior. It not only gives accurate information about the behavior of voters in the homogeneous precincts, but it verifies the reliability of the ER estimates. It is inexplicable that Dr. Zax would dismiss such analysis as "flawed" and "scientifically invalid," and that defendants would parrot his arguments.

As is apparent, the courts have fully considered claims identical to those raised by defendants here that ER and HPA are unreliable, and have uniformly rejected them. This Court should do the same.

D. Defendants' Arguments Are "Old News" and Ignore the Social Science Literature

One of the remarkable things about defendants' critique of ER is that it is based almost exclusively on a paper by Dr. Zax, "The Statistical Properties of 'Ecological Regression Analysis'" May 22, 2003, which was rejected for publication by the American Political Science Review. The APSR rejected the article because it was "old news," and "the points had already been made." Defendants' Brief, pp. 10-11.<sup>2</sup> Zax, then and now, brings nothing new to the

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2. While Zax disclosed some of the peer comments on his article, he don't disclose them all nor did he disclose any of the comments in their entirety. It may well be that other reasons were  
(continued...)

discussion of ER. His arguments, according to his own peers, are "old news" and are not worthy of publication.

Defendants and Zax also fail to note that ER has been subjected to rigorous testing by social scientists. According to Allan Lichtman, a recognized authority in the social science field, "few analytic techniques have been subjected to as stern a test of predictive capacity as the methodology, namely, ecological regression and extreme case analysis." Allan Lichtman, "Passing the Test: Ecological Regression Analysis in the Los Angeles Case and Beyond," 15 Evaluation Rev. 770 (1991). Lichtman has concluded that "ecological regression has proved itself to be a reliable indicator of voting behavior," and "has also proved itself to be remarkably accurate in predicting the ethnic composition of districts that provide minorities opportunities to elect candidates of their choice." Id. at 796-97.

Lichtman is far from alone in this judgment. The overwhelming consensus among experts in the field is that ER is a reliable technique for determining and analyzing the extent of racial bloc voting. See, e.g., J. Morgan Kousser, "Ecological Inference from Goodman to King," 34 Historical Methods 101 (2001) ("[s]ince it was introduced to historians nearly three decades ago, a statistical technique known as ecological regression has been widely used to analyze aggregate election returns and similar data in history,

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2. (...continued)  
given for the rejection of his article, in addition to the fact that it contributed nothing to the discussion of ecological regression.

political science, and law"); Bernard Grofman, "The Use of Ecological Regression to Estimate Racial Bloc Voting," 27 U. San. Fran. L. Rev. 593, 606 n.69 (1993) ("[t]he double regression technique has become standard in voting rights litigation"); James W. Loewen & Bernard Grofman, "Recent Developments in Methods Used in Vote Dilution Litigation," 21 Urban Lawyer, 589, 604 (1989) ("the results from ecological regression accurately portray group electoral behavior and can be relied on in voting-rights litigation").

Aside from the anomaly of relying upon a paper that was rejected for publication, Zax and defendants ignore the most recent social science literature concluding, not only that ER is reliable, but that it is equally or more reliable than the King method relied upon by Zax. Two independent researchers recently ran the King method and ecological regression analysis on 1000 simulated data sets and found a near-perfect .98 correlation between the results generated by the two methods. See Wendy K. Tam Cho and Albert H. Yoon, "Strange Bedfellows: Politics, Courts, and Statistics: Statistical Expert Testimony in Voting Rights Cases," 10 Cornell J.L. & Pub. Pol'y 237, 257-59 (2001).

Another study by Paul Bourke, Donald DeBats, and Thomas Phelan involved votes in the presidential elections of 1840 and 1844 in two counties in Illinois in which viva voce voting was used, and thus the person for whom each voter voted was actually known. Bourke, et al. then applied ecological regression analysis and the King method to the election data, which they aggregated at the

precinct level, to determine the accuracy of the respective predictions of known voter behavior. The two predictions were not only very similar to each other but were very close to the actual voting percentages. The researchers concluded, moreover, that the regression "technique, in at least this application, also proves to be a robust model whose simple application produces estimates closer to reality than the default application of the King technique." Paul Bourke, Donald DeBats & Thomas Phelan, "Comparing Individual-Level Returns with Aggregates," 34 Historical Methods 127, 132 (2001). Defendants' claim that the "premises [of ER] have simply been assumed to be true," Defendants' Brief, p. 11, reflects either a total ignorance of the "stern" scrutiny of ER by the courts and the social science community, or is a deliberate attempt to mislead the court.

Gary King, the author of EI, has himself testified as an expert witnesses in federal court using both the ecological regression technique and HPA. In Quilter v. Voinovich, 794 F. Supp. 695, 730 (N.D. Ohio 1992), the court reported that:

Dr. King analyzed over 2000 elections in Ohio from 1982 through 1990. Dr. King conducted a bivariate ecological regression analysis and determined that all the data indicated significant racially polarized voting. Dr. King verified the results of his bivariate ecological regression analysis by conducting a homogeneous precinct analysis and an analysis based on an aggregated compound multi-nomial model. These analyses confirmed the results of the bivariate ecological regression analysis.

Not only has King used ER, but Zax himself used ecological regression analysis in the first trial in Old Person and testified under oath that his analysis was "trustworthy." According to Zax,

"[m]y testimony today is based on the BERA analysis that I ran and based on the assumption that those analyses are trustworthy." Trial Tr., Vol. 9, p. 1434, March 26, 1998 (copy attached as Appendix C).

E. The Analysis of Multi-Candidate Contests Was Proper

There is no merit to defendants' claim that multi-candidate contests cannot be analyzed by ecological regression.<sup>3</sup> Defendants' rely, as before, entirely upon the representations of Zax, who once again relies upon an article he himself wrote. But Zax is an unreliable source upon which to rely.

Thornburg v. Gingles, which defendants failed to take note of, approved the use of ecological regression to analyze multi-candidate contests. The plaintiffs challenged North Carolina Senate District No. 22, which elected four members, House District No. 36, which elected eight members, House District No. 39, which elected five members, House District No. 23, which elected three members, House District No. 21, which elected six members, and House District No. 8, which elected four members. Gingles, 478 U.S. at 35 n.2. There was no numbered post provision and all the candidates ran at-large, with the highest vote getters winning the election. See Gingles v. Edmisten, 590 F. Supp. at 369-70. The fact that the contests in these districts were those in which more than one person was elected was no impediment to their analysis under ER, nor to the Court's express approval of its use.

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3. The King method admittedly cannot be used to analyze multi-candidate contests, but that does not mean such contests cannot be analyzed by ER.

Other cases, also ignored by defendants, rely upon ER in analyzing contests in which more than one person was elected from a given district. In Windy Boy v. Big Horn County, 647 F. Supp. 1022, 1014-15 (D.Mont. 1986), for example, the court relied upon ER performed by plaintiffs' expert of multi-seat, vote-for-two, school board elections in concluding that Indian voting strength was diluted by the challenged at-large system. The court in NAACP v. City of Niagara Falls, N.Y., 65 F.3d 1002, 1009 n.10, 1011 (2d Cir. 1995), also approved the use of ER in analyzing contests in which multiple positions were filed, e.g., a 1991 city council contest in which five persons ran for three seats. See also, Bradford County NAACP v. City of Starke, 712 F. Supp. at 1536 (relying upon the use of ER to analyze both head-to-head and "multi-candidate contests"). Defendants' argument, relying upon the dubious authority of Dr. Zax, cannot be credited.

F. There Is no Basis for Excluding the Analysis of Specific Elections

In his supplemental declaration of August 7, 2003, Dr. Cole successfully responded to each charge made by defendants concerning his analysis of individual elections. For the five contests with an inconsistent number of precincts and the one contest with inconsistent results, Dr. Cole explained that he did not rely upon those inconsistencies "to compute estimates of racial bloc voting." Declaration of Steven P. Cole, p. 2. Instead, he "relied on the portions of the analyses based on the correct weights and the racial bloc voting estimates that I reported for each of the above six contest were correct." Id. Defendants' speculation that the

inconsistencies may nevertheless have affected other parts of Dr. Cole's report is simply that, pure speculation unsupported by any evidence whatever. Moreover, as Dr. Cole stated, the inconsistencies involved only six contests, he did not rely upon the inconsistencies in any of his analyses, and his estimates of racial bloc voting "were correct."

In ten of the precincts involved in Dr. Cole's analysis, the number of votes actually cast was greater than the precinct voting age population computed on the basis of census data. Only 18 of the 46 contests analyzed by Dr. Cole were affected, and only 1 to 4 precincts were involved in a given contest. The census is, of course, a "snap shot" of the population at a given moment in time. Not only is it widely acknowledged to contain errors, but it is overtaken by demographic changes from the day it is released. The votes cast in the ten precincts could simply reflect demographic changes since the release of the census, or people voting in the wrong precinct. Dr. Cole has concluded, however, that it is unlikely that the estimates from the ten precincts could have a significant impact upon his estimates of racial bloc voting. To illustrate the lack of impact, he removed the only precinct (1 out of 39) with an estimated over vote from his analysis of the 1998 General Election for Senate District 26 and concluded that "[t]he sets of estimates of racial bloc voting with and without the problematic precinct are very similar and both indicate the presence of racially polarized voting." Declaration of Steven P. Cole, p. 3. In addition, and as appears more fully below, the



analyses conducted by Zax and Cole both produce similar estimates of racial bloc voting indicating that there is no basis for contending that Dr. Cole's analyses are unreliable.

G. Zax Is Not Reliable

Aside from his refusal to use homogeneous precinct analysis, Zax is no doubt also the only expert who refuses to consider primary elections in his analysis. Primary elections are obviously an important part of the electoral process. If Indians were losing a disproportionate number of primary elections, and thus never making it to the general election, an analysis that failed to report that could not be regarded as reliable. Numerous cases rely upon the analysis of primary elections. See, e.g., Gingles, 478 U.S. at 80 (relying upon the analysis of primary elections); Whitfield v. Democratic Party of Ark., 890 F.2d at 1424-25 (same); East Jefferson Coalition for Leadership and Development v. Jefferson Parish, 691 F.Supp. 991, 1009 (E.D.La. 1988) (same); Armour v. State of Ohio, 775 F.Supp. 1044, 1058 (N.D.Ohio 1991) (same); Cofield v. City of LaGrange, Ga., 969 F.Supp. 749, 761 (N.D.Ga. 1997) (same); Houston v. Lafayette County, Miss., 20 F.Supp. 2d 996, 1000-01 (N.D.Miss. 1998) (same); Jackson v. Edgefield County, 650 F.Supp. 1176, 1196 (D.S.C. 1986) (same); Windy Boy v. County of Big Horn, 647 F.Supp. at 1011-12. One court discredited an expert analysis that failed to include primary elections because "[t]hese are precisely the elections in which one would expect to find blacks and whites more often disagreeing on their candidate of choice." Bradford County NAACP v. City of

Starke, 712 F. Supp. 1523, 1534 (M.D.Fla. 1989).

Zax has described himself as "an unruly expert" who doesn't "take directions well." Old Person, Trial Tr., November 6, 2001, p. 71 (Appendix A). His refusal to consider primary elections, his refusal to use HPA, his insistence that multi-candidate contests cannot be analyzed, his apostasy over the use of ER, and his everybody-is-wrong-but-Zax approach suggest not only that he is "unruly," but that he is not reliable and that his judgment is flawed. The Tenth Circuit, notably, rejected Zax's testimony in a voting rights case on the ground that it was unreliable.<sup>4</sup>

In Sanchez v. State of Colorado, 97 F.3d at 1318, Zax testified as an expert witnesses and claimed that "seven hypothetical contests" could predict the outcome of elections. The court concluded, however, that "the record does not validate Dr. Zax's predictions," and that "actual outcomes, not predictions of outcomes, provide a more appropriate test." Id. at 1319. Zax's criticism of ER and HPA in this case is not more valid and should be rejected.

Zax's entire approach--citing himself as the principal authority and dismissing everything and everybody that disagrees with him--is a parody of the scientific method. Defendants' reliance upon Zax is deeply misplaced and reveals the fatal flaw in their arguments.

#### H. Defendants' Challenge Is Academic

4. Plaintiffs in their motion for summary judgment have relied upon the numbers that Zax mechanically "crunched," but they do not rely upon his judgments concerning the use of ER and HPA.

Defendants' challenge to ER is not only not well taken, but it is ultimately irrelevant, since the results produced by the opposing experts in this case, one using ER and the other EI, are remarkably consistent. Their estimates for the 2002 general elections for the state senate in Districts 26 and 27 are one example. See Table 1. In District 26, Dr. Cole estimated Indian cohesion at 88% and non-Indian cohesion at 69% using ecological regression. See Report of Steven P. Cole, Ph.D. ("Cole Report") (attached to the plaintiffs' brief in support of their motion for partial summary judgment as exhibit C) at 30. Using homogeneous precinct analysis, he obtained estimates of 91% and 66%, respectively. See id. at 33. Dr. Zax estimated Indian cohesion at 81% and non-Indian cohesion at 66% using the King method. See Report of Jeffrey S. Zax, Ph.D. ("Zax Report") (attached to the plaintiffs' brief in support of their motion for partial summary judgment as exhibit B) at 20. In District 27, Dr. Cole estimated Indian cohesion at 95% and non-Indian cohesion at 65% using ecological regression. See Cole Report at 36. Using homogeneous precinct analysis, he obtained estimates of 88% and 69%, respectively. See id. at 38. Dr. Zax estimated Indian cohesion at 93% and non-Indian cohesion at 62% using the King method. See Zax Report at 35. While there are slight differences in the estimates produced by each method, the result is still the same: Native Americans are highly cohesive and voting is racially polarized. The real difference in this case is one of interpretation.

Table 2

Comparison of Cohesion Estimates for the 2002 General Election  
for State Senate in Districts 26 and 27 Using Ecological  
Regression, Homogeneous Precinct Analysis and the King Method

	Indian Cohesion	Non-Indian Cohesion
District 26		
Ecological Regression	88%	69%
Homogeneous Precinct	91%	66%
King Method	81%	66%
District 27		
Ecological Regression	95%	65%
Homogeneous Precinct	88%	69%
King Method	93%	62%

In light of this remarkable consistency of results, the defendants' challenge to ER is academic and irrelevant. As the court held in Ruiz-Troche v. Pepsi Cola, 161 F.3d 77, 85 (1st Cir. 1998), "Daubert neither requires nor empowers trial courts to determine which of several competing scientific theories has the best provenance." Nor should Daubert require a court to make rulings that are purely academic and have no practical relevance to the merits of litigation. No matter which statistical method is used here, ER or EI, the results are still the same.

Rule 702 is in any event broad enough to permit testimony that is the product of competing principles or methods in the same field of expertise. As the court held in Heller v. Shaw Industries, Inc., 167 F.3d 146, 160 (3d Cir. 1999), expert testimony cannot be

excluded simply because an expert used one test rather than another, when both tests are accepted in the field and both reach reliable results.

I. Daubert and Rule 702 Require Denial of Defendants' Motion

Daubert and subsequent decisions make clear that the exclusion of expert testimony is the exception and not the rule. Daubert expressly provides that: "Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." 509 U.S. at 595. And as the court held in United States v. 14.38 Acres of Land Situated in Leflore County, Mississippi, 80 F.3d 1074, 1078 (5th Cir. 1996), Daubert did not work a "seachange over federal evidence law," and "the trial court's role as gatekeeper is not intended to serve as a replacement for the adversary system." Daubert and Rule 702 are not intended to provide a basis for the routine challenging of the testimony of every expert in a case. See Kumho Tire Co. v. Carmichael, 526 U.S. 137, 152 (1999) (the trial court has discretion "to avoid unnecessary 'reliability' proceedings in ordinary cases where the reliability of an expert's methods is properly taken for granted").

Under Daubert, moreover, proponents "do not have to demonstrate to the judge by a preponderance of the evidence that the assessments of their experts are correct, they only have to demonstrate by a preponderance of the evidence that their opinions are reliable. . . . The evidentiary requirement of reliability is

lower than the merits standard of correctness." Experts may even be allowed to testify if they could show that the methods they used were employed by "a recognized minority of scientists in their field." Daubert v. Merrell Dow Pharmaceuticals, Inc., 43 F.3d 1311, 1318 (9th Cir. 1995). Given the overwhelming endorsement and use of ecological regression and homogeneous precinct analysis by the courts and the scientific community, there can be no serious contention that the testimony and report of Dr. Cole in this case should be excluded.

### III. There Are no Grounds to Strike the Testimony of Mr. Cooper

#### A. Socio-Economic Disparities

There is no basis for striking the statement by William Cooper that "Indians in South Dakota bear the effects of discrimination in such areas as education, income, housing, and unemployment." Defendants' Brief, p. 21. Where, as here, there is substantial evidence of past discrimination against Indians, and substantial evidence that Indians have a depressed socio-economic status, it is implicit that the later is linked to the former. But more important, whether or not past discrimination caused the existing socio-economic disparities is irrelevant to the analysis under Section 2.

#### 1. The Link between Past Discrimination and a Depressed Socio-Economic Status Is Implicit

There can be no dispute (as plaintiffs have fully documented) that there has been substantial discrimination against Indians in South Dakota. There can also be no question (again as plaintiffs have fully documented) that Indians are socio-economically

depressed compared to non-Indians. One of the many legacies of discrimination against Indians and other minority groups is a depressed socio-economic status. As the Supreme Court has recognized, the "effects of prior discrimination" against minority groups include "inferior education, poor employment opportunities, and low incomes." Gingles, 478 U.S. at 69. In White v. Regester, 412 U.S. 755, 768-69 (1973), the Court similarly noted that "the results and effects of invidious discrimination and treatment" included "poor housing," "low income," "a high rate of unemployment," and a depressed level of political participation. The Senate report that accompanied the 1982 amendments of the Voting Rights Act also concluded that past discrimination creates "disproportionate educational, employment, income level and living conditions," which in turn "tend to depress minority political participation." S.Rep. No. 417, 97th Cong., 2d Sess. 29 n.114 (1982), reprinted in 1982 U.S. Code Cong. & Adm. 206.

Numerous decisions, including those from Indian country, have similarly recognized the inherent link between past discrimination and present day socio-economic status. See, e.g., Stabler v. County of Thurston, Neb., 129 F.3d 1015, 1023 (8th Cir. 1997) ("Native Americans bear the effects of social, economic, and educational discrimination"); Cuthair v. Montezuma-Cortez, Colorado School District, 7 F.Supp.2d 1152, 1170 (D.Col. 1998) ("there is no doubt that this depressed status [of Indians] was caused, at least in part, by the history of mistreatment"); LULAC v. Clements, 986 F.2d 728, 750 (5th Cir. 1993) ("the lingering effects of

discrimination" include socio-economic disadvantage); Buckanaga v. Sisseton Independent School District, 804 F.2d 469, 474 (8th Cir. 1986) ("'a history or pervasive, purposeful discrimination may provide strong circumstantial evidence' . . . that past discrimination has also led to present socio-economic disadvantage [of Indians]"); Perkins v. City of West Helena, Ark. 675 F.2d 201, 211 (8th Cir. 1982) ("past discrimination has contributed to socio-economic depression among [minorities]"); Harvell v. Blythville School District, No. 5, 71 F.3d at 1390 (noting "the recognized historic effects of discrimination in the areas of health, employment, and education"); Ma'or v. Treen, 574 F. Supp. 325, 341 (E.D.La. 1983) (a depressed socio-economic status is "the legacy of historical discrimination"); Mallory v. Ohio, 38 F.Supp.2d 525, 547 (S.D.Ohio 1997) (where past discrimination and socio-economic disparities are shown there can be no "serious dispute" that the former caused the later); Williams v. City of Dallas, 734 F. Supp. 1317, 1408-09 (N.D.Tex. 1990) (the effects of past discrimination "are substantial socio-economic disparities between [the races]"); Dillard v. Crenshaw County, 649 F. Supp. 289, 295 (M.D.Ala. 1986) (a depressed socio-economic status "reflects" past discrimination); Buchanan v. City of Jackson, Tenn., 683 F. Supp. 1515, 1533 (W.D.Tenn. 1988) (socio-economic disparities are one of "the effects of discrimination"); Neal v. Coleburn, 689 F. Supp. 1426, 1428 (E.D.Va. 1988) (minorities "continue to suffer from the socio-economic consequences of . . . past discrimination"); United States v. Marengo County Commission, 731 F.2d 1546, 1574 (11th Cir. 1984)



("a history of pervasive discrimination . . . has left Marengo County blacks economically, educationally, socially, and politically disadvantaged"); Lodge v. Buxton, 639 F.2d 1358, 1379 (5th Cir. 1981) ("inadequate and unequal educational opportunities" are "the result of official discriminatory acts"), aff'd sub nom. Rogers v. Lodge, 458 U.S. 613 (1982).

President Nixon, in a special message to congress in 1970 on the status of Native Americans, noted the obvious link between past discrimination and present day inequalities:

The First Americans--the Indians--are the most deprived and most isolated minority group in our nation. On virtually every scale of measurement--employment, income, education, health--the condition of the Indian people ranks at the bottom.

This condition is the heritage of centuries of injustice. From the time of their first contact with European settlers, the American Indians have been oppressed and brutalized, deprived of their ancestral lands and denied the opportunity to control their own destiny.

President's Special Message to Congress on Indian Affairs, 1970, Pub. Papers: Richard Nixon 564-67, 575-76 (July 8, 1970).

When the Voting Rights Act was extended and amended in 1975, Senator William Scott read into the record a report prepared by the Library of Congress, Prejudice and Discrimination in American History, which concluded that the modern day "distress of Indians" was the result of past discrimination:

Discrimination of the most basic kind has been directed against the American Indian from the day that settlers from Europe set foot upon American shores. . . . [A]s late as 1948 certain Indians were still refused the right to vote. The resulting distress of Indians is as severe as that of any group discriminated against in American society.

Cong. Rec. S13603 (daily ed. July 24, 1975) (statement of Sen Scott).

A recent publication by the U.S. Commission on Civil Rights states the obvious: that "indigenous peoples have suffered gross injustices because of government-sanctioned policies," that "Native Americans rank near the bottom of nearly every social, health, and economic indicator," and that these disparities "show evidence of discrimination and denial of equal protection of the laws." A Quiet Crisis: Federal Funding and Unmet Needs in Indian Country, U.S. Commission on Civil Rights, July 2003, pp. 2, 8, 113.

Mr. Cooper's statement that "Indians in South Dakota bear the effects of discrimination in such areas as education, income, housing, and unemployment" is a statement of the obvious, and something which this Court can judicially notice. A court may take judicial notice of a state's history of racial discrimination, as well as its continuing effects, pursuant to Rule 201. In Jeffers v. Clinton, 730 F. Supp. at 210, the district court took "judicial notice of the . . . history of official discrimination in voting . . . and . . . [the] effects of past discrimination in education, employment, etc." According to the court, "[m]uch of the proof in this case was already obvious to any conscious Arkansan." Id. The same can be said of the statement by Mr. Cooper--it is, or should be, already obvious to any conscious South Dakotan. See also United States v. Gould, 536 F.2d 216, 219 (8th Cir. 1976) (a court may take judicial notice of matters of "common knowledge"); Ritchie Grocer Co. v. Aetna Cas. & Sur. Co., 426 F.2d 499 (8th Cir. 1970

(same); Mills v. Denver Tramway Corp., 155 F.2d 808, 811 (10th Cir. 1946) (same).

2. Causation Is Irrelevant to the Section 2 Analysis

Whether discrimination has caused inequalities for Indians in income, housing, etc., is ultimately irrelevant for the reason that causation is not part of the analysis, or a plaintiff's burden of proof, under Section 2. The Senate report that accompanied the 1982 amendments of the act lists a number of factors to be considered in determining a Section 2 violation, including:

1. the extent of any history of official discrimination in the state or political subdivision that touched the right of the members of the minority group to register, to vote, or otherwise to participate in the democratic process;

. . . . .

5. the extent to which members of the minority group in the state or political subdivision bear the effects of discrimination in such areas as education, employment and health, which hinder their ability to participate effectively in the political process.

1982 U.S. Code Cong. & Adm. News 206. The report further provides that "[w]here these conditions are shown . . . plaintiffs need not prove any further causal nexus between their disparate socioeconomic status and the depressed level of political participation." Id. at n.114. Accord Whitfield v. Democratic Party of State of Ark., 890 F.2d at 1431 (once the lower socioeconomic status of a minority has been shown "there is no need to show the causal link of this lower status on political participation"); United States v. Dallas County Commission, 739 F.2d 1529, 1537 (11th Cir. 1984) ("[i]nequality of access is an

inference which flows from the existence of economic and educational inequities"); United States v. Marengo County Commission, 731 F.2d at 1569 ("the burden is not on the plaintiffs to prove that this disadvantage is causing reduced political participation, but rather is on those who deny the causal nexus to show that the cause is something else);" Mañor v. Treen, 574 F. Supp. 325, 351 n.31 (E.D.La. 1983) (same). By the same token, where, as here, plaintiffs establish a history of past discrimination and a depressed minority socio-economic status, they need not show any causal nexus between the past discrimination and the disparate socio-economic status.

Requiring plaintiffs' to show a causal nexus between past discrimination and a disparate socio-economic status would be contrary to congressional purpose in enacting the act. Congress amended Section 2 in 1982 to make clear that a violation could be shown by evidence that a voting practice had a discriminatory "result." Gingles, 478 U.S. at 35. Congress dispensed with any requirement of proving purpose or causation for a number of reason, including that it "asks the wrong question." Id. at 73. The right question was "whether minorities have equal access to the process of electing their representatives." The Court held in Gingles, 478 U.S. at 47, that "[t]he essence of a § 2 claim is that a certain electoral law, practice, or structure interacts with social and historical conditions to cause an inequality in the opportunities enjoyed by black and white voters to elect their preferred representatives." The Court, and Congress, took a "functional"

view of the political process which looks to its results, and not causes, including the causes of a disparate socio-economic status.

The requirement of proving causation or purpose is rejected throughout the act. For example, plaintiffs "need not prove causation or intent in order to prove a prima facie case of racial bloc voting and defendants may not rebut that case with evidence of causation or intent." Gingles, 478 U.S. at 74. All that matters under Section 2 and "a functional theory of vote dilution is voter behavior, not its explanations." Id. at 73. Accord, Collins v. City of Norfolk, Va., 816 F.2d 932, 935 (4th Cir. 1987); Sanchez v. State of Colorado, 97 F.3d 1315-16; Whitfield v. Democratic Party of State of Ark., 890 F.2d at 1430 ("the Senate factors do not apply to the cause and effect analysis").

There is no requirement that plaintiffs, or their expert, prove that the depressed socio-economic status of Indians was caused by past discrimination. The existence of such disparities is all that is relevant to a Section 2 inquiry.

#### B. Plaintiffs' Illustrative Plans Comply with Section 2

There is no merit to defendants' argument that Mr. Cooper should not be allowed to testify whether his illustrative plans are based upon "traditional redistricting principles" because he was ignorant of "community of interest" and "protection of incumbents." Defendants' Brief, p. 23. The argument is a serious misrepresentation of the facts.

In his initial report Mr. Cooper explained that his illustrative plans were designed to show that Indians in South

Dakota are sufficiently geographically compact to constitute a majority in additional house and senate districts. Expert Report of William S. Cooper, p. 3. In drawing his plans he took into account a variety of traditional redistricting factors, including "compactness, contiguity, one person, one vote and the non-dilution of minority voting strength." Id. at 27. He drew his plans "at the precinct or census voting district level to minimize voter inconvenience." Id. at 16. The plans had community and local input in that some of the drafts "were reviewed by Indian legislators and other interested persons, including members of the Legislative Redistricting Committee." Id. at 15. Most of the drafts were also posted on his website "for immediate public viewing." Id. To insure that his plans reflected local "community of interest" and "protection of incumbents," he also reviewed "various draft plans prepared by the state legislative redistricting committee," and modified some of his drafts "to mesh with proposals pending before the legislative redistricting committee." Id. at 16. His plans were "least change" plans and were based on the most recent census data. Id.

In Illustrative Plan B Mr. Cooper adopted the existing boundaries for Senate District 27. Id. at 17. Illustrative Plan C was designed "to fit into the statewide plan that was adopted by the legislature on October 24, 2001." Id. at 18. And notably, "[p]rotection of incumbent legislators representing District 27 and other districts in the state is a key factor in this plan." Id.

The plan required "no changes beyond the reconfiguration of Senate Districts 26 and 27." Id. at 19.

Illustrative Plan D was also designed "to fit into the statewide plan that was adopted by the legislature." Id. No changes were made except in Senate District 26 and 27. Aside from protecting incumbents in the other districts, the purpose of the plan was to demonstrate that it was not necessary to split both the Pine Ridge and Rosebud Reservations to create a majority Indian house district in District 26. In further recognition of traditional redistricting principles, the Pine Ridge Reservation and off-reservation trust land was kept entirely inside District 27. This district also included four whole counties--Shannon, Bennett, Jackson, and Mellette. Id. at 20.

Illustrative Plan E was designed to show that an additional Indian house district could be created within a senate district by recognizing communities of interest, and not splitting the Pine Ridge Reservation (including off-reservation trust land) or county boundaries. Id. at 20. The plan was designed to fit into the adopted plan, and required changes only in Districts 21, 26, and 27.

As the above discussion of the plans prepared by Mr. Cooper show, there is no basis for defendants' claim that he ignored "community of interest" and "protection of incumbents." To the contrary, he made every effort to incorporate these concepts into his various plans by, among other things, incorporating the plan which the legislature had adopted. If the legislature recognized

"community of interest" and "protection of incumbents," then so did Mr. Cooper, for he adopted most of the legislature's plan.

Mr. Cooper, as a demographer, also had before him at the time he drew his plans a cornucopia of data showing that Indians in South Dakota are a distinctive community of interest. The data showed that "Indians in South Dakota lag far behind whites across most socio-economic measures reported in the 2000 census." Id. at 22. The counties "with significant reservation and off-reservation trust land population rank among the poorest of the state." Id. at 24. The ten counties with the highest poverty rates "are reservation counties." Id. The socio-economic disparity between Indians and whites in the area encompassed by Districts 26 and 27 where he drew his illustrative plans "is just as stark as the statewide contrast." Id. at 25. The socio-economic disadvantages of Indians are also "compounded by a lack of access to the outside world via telephone or vehicle." Id. at 27. Mr. Cooper noted that "[t]his socio-economic distress takes on a spacial dimension as well," since "[m]ost of the Indian population lives in reservation counties." Id. By keeping the reservations and off-reservation trust lands intact, and by keeping reservation counties intact, Mr. Cooper necessarily applied a "community of interest" approach in his plan drawing.

There is also no merit to defendants' claim that "race was the overriding element" in Mr. Copper's plans. Defendants' Brief, p. 26. As the discussion above makes abundantly clear, Mr. Cooper's plans were based on a host of traditional redistricting principles,



and moreover, largely followed the state's existing plan. While Mr. Cooper did take Indians into account, as he was obliged to do to comply with the Gingles geographic compactness factor, he did not ignore the interests of non-Indians anymore than the state did in its plan.

Indian is not, in any event, simply a racial category. It is a distinctive political classification as well. Morton v. Mancari, 417 U.S. 535, 553-54 (1974). Strict scrutiny under the Fourteenth Amendment does not apply to redistricting plans drawn to accommodate the interest of political groups. Bush v. Vera, 517 U.S. 952, 964 (1996); Easley v. Cromartie, 532 U.S. 234, 257 (2001). Tribes, unlike members of other racial groups, also have broad powers to assert and maintain their economic, political, and cultural authority. See, e.g., Indian Self-Determination Act, 25 U.S.C. § 450, et seq. A plan drawn to accommodate the political identity of Indians and to recognize their special tribal status--not to mention their distinctive socio-economic condition and the history of discrimination they have experienced--does not run afoul of recent Supreme Court decisions such as Miller v. Johnson, 515 U.S. 900 (1995).

The Court has made it clear that majority-minority districts can be drawn to recognize racial communities that have "some common thread of relevant interest." Miller, 515 U.S. at 920. No one could contend that Indians in South Dakota are not an identifiable community of interest. Given the pervasive history of discrimination against Indians in South Dakota in all areas of life

and the continuing effects of that discrimination, as well as their distinct political and tribal status, a district including members of the Indian community is by definition based upon "some common thread of relevant interest." See Cane v. Worcester County, Md., 35 F.3d 921, 927 n.6 (4th Cir. 1994) ("[d]rawing districts based on such common interests is perhaps one of the most invoked districting principles").

As fundamentally, defendants misapprehend the purpose of the geographic compactness requirement of the first Gingles factor. Gingles does not require plaintiffs to construct super majority districts. Plaintiffs' burden is merely to show that it is "sufficiently large and geographically compact to constitute a majority in a single member district." Gingles, 478 U.S. at 50. The function of the Gingles compactness requirement is only to show "whether any remedy is possible in the first instance." Sanchez v. State of Colorado, 97 F.3d at 1312. Accord, Houston v. Lafayette County, Miss., 56 F.3d 606, 611 (5th Cir. 1995) (the question under Gingles is whether "a geographically compact district could be drawn"). Data showing the extent of political cohesion and white bloc voting are relevant, but only in proving the second and third Gingles factors.

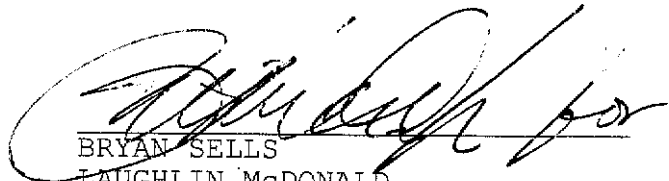
There is no basis whatever for excluding either Mr. Cooper's testimony or the illustrative plans that he drew.

#### IV. There Is no Need for a Hearing on Defendants' Motion

As the above discussion amply demonstrates, defendants' motion to strike is entirely without merit. Accordingly, there is

no basis for conducting an evidentiary hearing on the motion. But if one were held, it would waste the time of the court and the parties, and would entail additional expense to the plaintiffs who would be required to hire yet another expert or experts merely to reiterate what has already been discussed at length in this brief, i.e., that ER and HPA have been subjected to rigorous scrutiny by the courts and the social science community and have been found to be reliable tools for analyzing voting behavior. Defendants' motion and request for a hearing should be denied.

Respectfully submitted,



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CERTIFICATE OF SERVICE

I hereby certify that I have served the attached pleading by U.S. Mail, first-class postage prepaid, upon the following attorneys:

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